Giant cockroach における新規糖脂質の構造研究

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Characterization of Novel Glycolipids from the Giant Cockroach (*Blaberus colosseus*)

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ABSTRACT A novel class of glycolipids, assigned the trivial name blaberosides, was isolated from whole head tissues of the giant cockroach (*Blaberus colosseus*). The class consists of tow closely related families, blaberoside I and blaberoside II, each containing species differing by 26 atomic mass units. The structure of these gentiobiose-based glycoglycerolipids was elucidated by chromatographic behavior, nuclear magnetic resonance spectroscopy, mass spectrometry, and analysis of chemical degradation products and derivatives. Species in the blaberoside I family have been identified as 2-*O*-[6′-*O*-(6″-*O*-3-hydroxy-11-eicosenoyl-β-D-glucopyranosyl)-β-D-glucopyranosyl]-3-(hexadecyloxy)-1-(3-hydroxy-11-eicosenoyl)-1, 2-propanediol (blaberoside I a) and 2-*O*-[6′-*O*-(6″-*O*-3-hydroxy-11-eicosenoyl-β-D-glucopyranosyl)-β-D-glucopyranosyl]-3-(6-octadeceloxy)-1-(3-hydroxy-11-eicosenoyl)-1, 2-propanediol (blaberoside I b). Two smaller homologs of the blaberoside II family were discerned to be 2-*O*-[6′-*O*-(6″-*O*-3-hydroxy-11-eicosenoyl-β-D-glucopyranosyl)-β-D-glucopyranosyl]-3-(hexadecyloxy)-1, 2-propanediol (blaberoside II a), and 2-*O*-[6′-*O*-(6″-*O*-3-hydroxy-11-eicosenoyl-β-D-glucopyranosyl)-β-D-glucopyranosyl]-3-(4-octadeceloxy)-1, 2-propanediol (blaberoside II b). These compounds are unique because they are animal origin glyceroglycolipids with a highly flexible gentiobiose backbone, and a β-linkage of the carbohydrate to the glycerol ether at the 2 position rather than the usual 1 position.

抄録　giant cockroach (*Blaberus colosseus*) の頭部組織から新しい種類の糖脂質である blaberoside Ⅰ と blaberoside Ⅱ を単離した。構造研究の結果，これらはゲンチオビオースからなる糖脂質で，いずれも分子量が26異なった２つの化合物から構成され，blaberoside Ⅰ は blaberoside Ⅰa と Ⅰb，blaberoside Ⅱ は blaberoside Ⅱa と Ⅱb であると決定した。これらの化合物は，柔軟性に富んだ糖の結合様式を有するゲンチオビオースを基本骨格としていることと，通常と異なりグリセロールの２位に糖がβ結合したグリセロ糖脂質であるという点で非常にめずらしい。

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